WEST RIVER/LYMAN-JONES RURAL WATER SYSTEM, INC.

Annual Drinking Water Report • January 1, 2016 - December 31, 2016

West River/Lyman-Jones Rural Water Systems, Inc.'s highest priority is to provide safe drinking water to all users on the rural water system. The following report, provided in accordance with EPA's Safe Drinking Water Act, contains information about the water WR/LJ supplied to you from January to December 2016.

WATER SOURCES

WR/LJ has several water sources for its seven county service area. Two intakes are located in Lake Sharpe on the Missouri River. They are the intake for the Mni Wiconi Water Treatment Plant at Ft. Pierre, SD operated by Oglala Sioux Rural Water, and the intake for Lower Brule Rural Water located at Lower Brule, SD. Groundwater sources are wells owned by the city of Wall and three wells owned by WR/LJ near Creighton and Quinn.

TREATMENT & TESTING

Various treatment methods are used by WR/LJ and their water suppliers. The water WR/LJ receives from each of the Missouri River sources and WR/LJ wells are treated with chloramines, a combination of chlorine and ammonia that has a long-lasting effect on bacteria. The Wall city well water is treated with chlorine.

The State Drinking Water Program has divided West River/Lyman-Jones into individual testing areas according to population and water source and provides WR/LJ a yearly schedule of testing requirements for each of those areas. The tables of tests provided in this report contain the results of testing done by WR/LJ's bulk providers and those done directly by WR/LJ in each of its service areas.

CONTAMINANTS

Contaminants that may be present in source water include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or results from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.
- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

INFORMATION PROVIDED BY EPA

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants can be obtained by calling the Environment Protections Agency's Safe Drinking Water Hotline (800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The West River/Lyman-Jones public water supply system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

SUMMARY OF RESULTS

West River/Lyman-Jones Rural Water System routinely tests its water for over 80 substances. The following tables list all the drinking water contaminants that were detected in calendar year 2016. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables are from testing done in 2016. EPA and State regulations require us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore, some of the data, though representative of the water quality, may be more than one year old.

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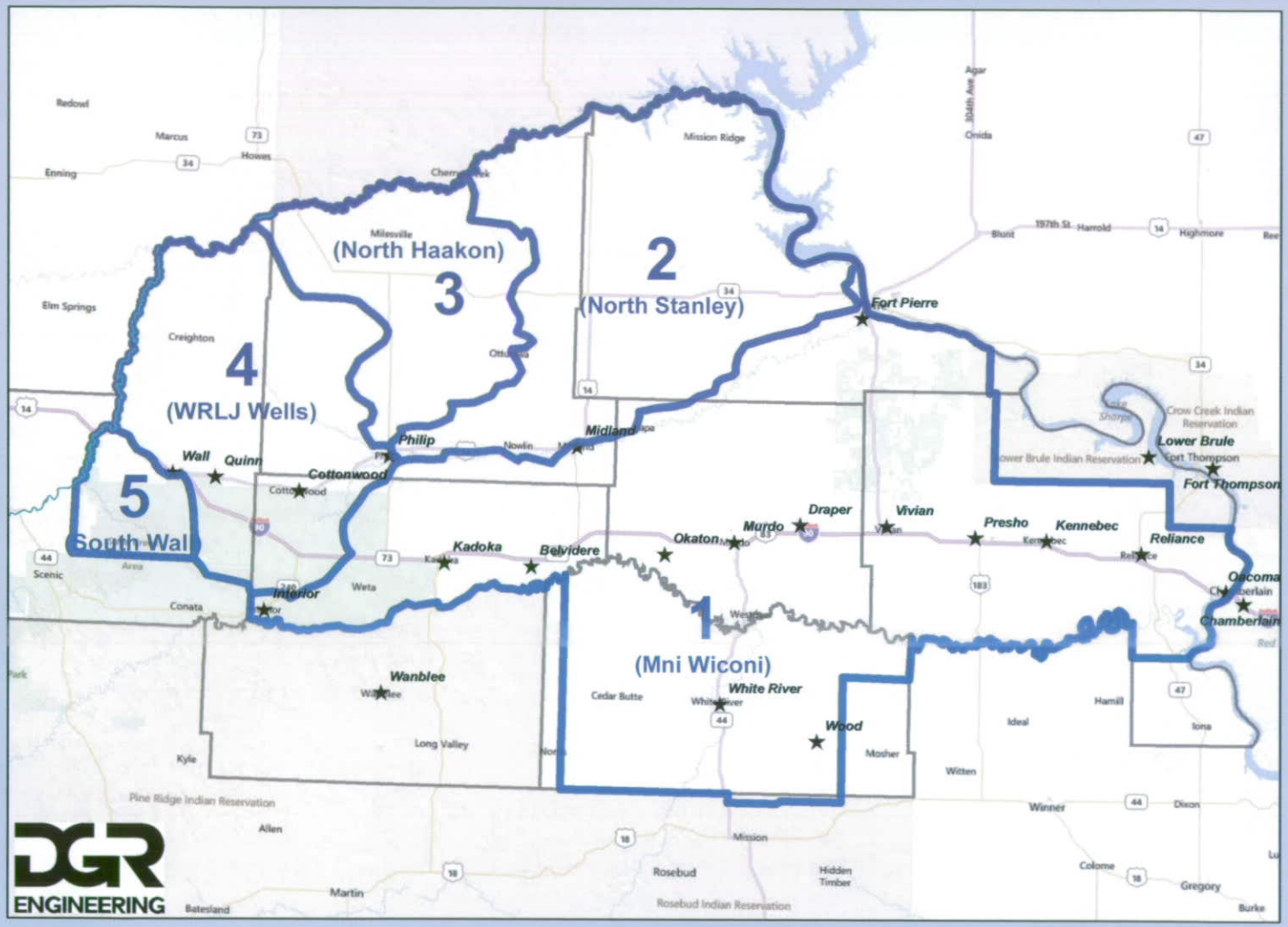

WHICH TABLE(S) APPLIES TO MY WATER?

For your water test results, please refer to the map above for your water source.

- **WATER SOURCE 1** (Mni Wiconi) – See Tables A and B
- **WATER SOURCE 2** (North Stanley) – See Tables A and C
- **WATER SOURCE 3** (North Haakon) – See Tables A and C
- **WATER SOURCE 4** (WR/LJ Wells) – See Table D
- **WATER SOURCE 5** (South Wall) – See Table E

TABLE A

TABLE A - MNI WICONI WATER TREATMENT PLANT (OGLALA SIOUX RURAL WATER) SURFACE WATER							
Substance	Sample Date	Highest Level Detected		Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Units	Major Source of Contaminant
Antimony	8/2/16	0.283		6	6	ppb	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Barium	8/2/16	0.0377		2	2	ppm	Discharge of drilling wastes; Discharge from metal refineries.
Copper	2016	90% Level = 0.5		0	AL=1.3	ppm	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Cyanide	8/2/16	<0.010		0.2	0.2	mg/L	Discharge from steel/metal factories, from plastic and fertilizer factories.
Fluoride	12/9/15	0.9		4	4	mg/L	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Chlorine	7/30/16	2		MRDLG 4	MRDL 4	mg/L	Water additive used to control microbes.
Gross Alpha	4/25/13	3.7 +/- 1.2		15	15	pCi/L	Cancer Risk
Haloacetic Acids	7/30/16	22		0	60	ppb	By-product of drinking water chlorination.
Lead	2016	90% Level = 3.5		0	AL=15	ppb	Corrosion of household plumbing systems; Erosion of natural deposits.
Selenium	8/2/16	1.15		50	50	ppb	Discharge from petroleum and metal refineries; Erosion of natural deposits.
Sodium	8/2/16	90.2		NESC	NESC	mg/L	Naturally present in the environment.
Total Trihalomethanes	7/30/16	38		0	80	ppb	By-product of drinking water chlorination.
Turbidity	2016	.54 NTU 100%	.02 - .54 100%	0	TT: 1.00 NTU TT: % of samples </=0.3	NTU	Soil Runoff. Turbidity is a measurement of the clarity of the water.
Total Organic Carbon (TOC) % removal	Monthly	21.66% Removal rate	15.79 - 34.66% removal	N/A	TT		Naturally present in the environment.

TABLE B

TABLE B (EPA ID 2223) SURFACE WATER FROM LAKE SHARPE ON MISSOURI RIVER							
Substance	Date Tested	Highest Level Detected	Range	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Units	Major Source of Contaminant
Copper	8/10/16	90% Level = 0.1	# Sites > 1.3 AL - 0	0	AL=1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	3/7/16	0.92	0.45 - 0.92	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Haloacetic Acids	9/8/16	25.7	13.6 - 39.3	0	60	ppb	By-product of drinking water chlorination.
Lead	8/10/16	90% Level = 1	# Sites > 15 AL - 0	0	AL=15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Total Trihalomethanes	9/8/16	34.9	34.9 - 55.0	0	80	ppb	By-product of drinking water chlorination.

TABLE C

TABLE C (EPA ID 2224) SURFACE WATER SOURCE FROM LAKE SHARPE ON MISSOURI RIVER							
Substance	Date Tested	Highest Level Detected	Range	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Units	Major Source of Contaminant
Copper	8/10/16	90% Level = 0.1	# Sites > 1.3 AL - 0	0	AL=1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	3/7/16	0.93	0.41 - 0.93	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories.
Haloacetic Acids	9/8/16	28.2	22.2 - 33.4	0	60	ppb	By-product of drinking water chlorination.
Lead	8/10/16	90% Level = 1	# Sites > 15 AL - 0	0	AL=15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Total Trihalomethanes	9/8/16	51.2	35.5 - 51.7	0	80	ppb	By-product of drinking water chlorination.

TABLE D

TABLE D (EPA ID 2156) CREIGHTON AREA WELLS - GROUNDWATER SOURCE							
Substance	Date Tested	Highest Level Detected	Range	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Units	Major Source of Contaminant
Barium	7/22/13	0.026	0.018 - 0.026	2	2	ppm	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits.
Chromium	7/22/13	6.8	6.1 - 6.8	100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Radium 228	9/14/16	1.0 +/- 0.6		5	5	pCi/L	Erosion of natural deposits.
Copper	8/2/16	90% Level = 0.1	# Sites > 1.3 AL - 0	0	AL=1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride *VIOLATION* (see below)	12/8/16	2.72	2.01 - 2.72	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Gross Alpha	9/14/16	3.0 +/- 1.2		15	15	pCi/L	
Haloacetic Acids	9/26/16	4.5		0	60	ppb	By-product of drinking water chlorination.
Lead	8/2/16	90% Level = 1	# Sites > 15 AL - 0	0	AL=15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Mercury (Inorganic)	8/27/12	0.1	ND - 0.1	2	2	ppb	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland.
Nitrate (as Nitrogen)	9/16/16	0.2		10	10	ppm	Runoff from fertilizer use; leaching from spectic tanks, sewage; erosion of natual deposits.
Nitrite (as Nitrogen)	8/5/15	0.02		1	1	ppm	Runoff from fertilizer use; leaching from spectic tanks, sewage; erosion of natual deposits.
Selenium	7/22/13	0.5	ND - 0.5	50	50	ppb	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Total Trihalomethanes	9/26/16	0.5		0	80	ppb	By-product of drinking water chlorination.

VIOLATION - In 2016 WR/LJ Creighton and Quinn wells exceeded the secondary maximum contaminant level for fluoride. Children under 9 years of age may develop cosmetic discoloration of their permanent teeth from drinking water containing more than 2 ppm of fluoride and should be provided an alternate source for drinking. Drinking water containing more than 4 ppm of fluoride can increase the risk of developing bone disease. WR/LJ annually mails each customer affected by this violation a notice of the fluoride MCL secondary exceedance. Some home water treatment units are available to remove fluoride from the water. The problem will be ongoing unless the area receives its water from another source or the natural level of fluoride drops below MCL limits.

TABLE E

TABLE E (EPA ID 0417) CITY OF WALL WELLS - GROUNDWATER SOURCE							
Substance	Date Tested	Highest Level Detected	Range	Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Units	Major Source of Contaminant
Barium	7/16/12	0.008		2	2	ppm	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Copper	8/4/15	90% Level = 0.1	# Sites > 1.3 AL - 0	0	AL=1.3	ppm	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Chromium	7/16/12	0.3		100	100	ppb	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride *VIOLATION* (See Below)	7/16/12	3.2	2.0 - 3.2	4	4	ppm	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead	8/4/15	90% Level = 3	# Sites > 15 AL - 0	0	AL=15	ppb	Corrosion of household plumbing systems; erosion of natural deposits.
Nitrate (as Nitrogen)	5/10/16	0.537		10	10	ppm	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

VIOLATION - In 2016 Wall wells exceeded the secondary maximum contaminant level for fluoride. Children under 9 years of age may develop cosmetic discoloration of their permanent teeth from drinking water containing more than 2 ppm of fluoride and should be provided an alternate source for drinking. Drinking water containing more than 4 ppm of fluoride can increase the risk of developing bone disease. WR/LJ annually mails each customer affected by this violation a notice of the fluoride MCL secondary exceedance. Some home water treatment units are available to remove fluoride from the water. The problem will be ongoing unless the area receives its water from another source or the natural level of fluoride drops below MCL limits.

DEFINITION OF TERMS USED IN TABLES

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. For Lead and Copper, 90% of the samples must be below the AL.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water. For turbidity, 95% of samples must be less than 0.3 NTU.

Maximum Contaminant Level (MCL): This is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

NESC–Non-enforceable secondary contaminant

UNITS USED IN TABLES

ppm: parts per million, or milligrams per liter (mg/L)

ppb: parts per billion, or micrograms per liter (ug/L)

pCi/L: picocuries per liter (a measure of radioactivity)

NTU: Nephelometric Turbidity Units

ND: Non Detectable

Pspm: positive samples per month

CONTACTS

If you have any questions about this testing information, please call the Murdo office at 1-800-851-2349 or 605-669-2931 for assistance. The WR/LJ Board of Directors regular meeting is the third Thursday of each month at the main office at 307 Main St. in Murdo, SD. This report will remain on file at the Murdo office.